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A NEW FOSSIL SPIDER, EOATYPUS WOODWARDII.

BY HENRY C. MCCOOK, D. D.

While visiting the British Museum of Natural History at South Kensington, London, in the summer of 1887, I was permitted to examine some fossil insects and fossil spiders therein contained, under the kind direction of Dr. Henry Woodward, the Keeper of the Geological Department. Among the aranead fossils I observed one which appeared to me to be new to science, and closely related to the genus *Atypus*. The fossil is a tolerably well preserved impression, taken from the Eocene Tertiary at Garnet Bay, Isle of Wight.

After my return to America, Dr. Woodward sent me casts both in wax and plaster, from which the appended description has been made. These impressions somewhat shook the view which I was at first inclined to take as to the systematic place of the specimen. But on the whole, I am inclined to adhere, though with some qualification, to my original judgment.

The only hesitation that an araneologist would feel in placing the species would be as to whether it belongs with the Saltigrades or jumping spiders, among the Attidæ perhaps, or with the Territelariæ among the Atypinæ. Those who have examined fossils of insects and other small arthropods, especially of the order Araneæ, will understand the difficulty in determining with absolute accuracy their generic and specific rank, and will, therefore, not be surprised at this hesitation concerning the above named specimen.

The shape of the cephalothorax to some extent, especially as viewed from the original fossil in the British Museum, and more particularly the character of the falces as noted in a side view of the specimen shown at Fig. 1, indicate that the fossil may belong to the family Atypinæ and be closely related to *Atypus*. The name *Eoatypus Woodwardii* is therefore suggested for the species. If this inference is correct, we may possibly have in this new fossil the distant progenitor of the present British species of *Atypus*, *Atypus piceus*.

ORDER ARANEAE.

FAMILY ATYPINÆ.

EOATYPUS, Nov. Gen.

***Eoatypus Woodwardii*.**

The total length of body, including mandibles is, 8 mm.; length of abdomen 4 mm.; length of cephalothorax 3 mm.; of mandibles

1 m.; width of abdomen at the base 3·5 mm.; width of abdomen at the apex 1·75; width of the cephalothorax at the caput 2·25; width of cephalothorax from margin to margin across the middle 3·5 mm.; length of palps 2 mm. Both palps are represented by rather thin lines, showing slight marks of joints, and on one palp is a suggestion of a terminal bulb which might indicate it to be a young male.

The caput and median part of the cephalothorax as viewed from the cast, are well elevated and defined; the cephalothorax narrows towards the abdomen. But in the original impression in the rock



FIG. 1. *Eoatypus Woodwardii*, x 4.



FIG. 2. *Eoatypus Woodwardii* x 4 Outline side view of body.

and less distinctly on the casts, there appear outlines on either side of the margin of the cephalothorax, as though by pressure those parts had been flattened, and only the caput and a part of the dorsum of the cephalothorax along the median line had withstood the pressure and had been pushed upward into the matrix by the same. These outlines are visible, but not as distinct in the plaster cast. It is at this point that one experiences difficulty in determining whether the specimen is related to *Attus* or *Atypus*. If the broader marginal markings are impressions of the original cephalothorax, the inference would be that the spider represented by this fossil belonged to the *Atypinae*. That such is the case, I am strongly inclined to believe, both on the ground just named, and the characteristics of the mandibles, as well as the general facies of the impression and cast. (See Fig. 1.*) In the absence of the characteristic eyes and long, jointed superior spinners it would be impossible to relegate the specimen to the genus *Atypus* with absolute authority.

* This figure has been drawn from the cast and compared carefully with one kindly made for me in the Geological Department of the British Museum, and furnished by the Keeper, Dr. Woodward,

Neither would one be warranted to characterize a new genus by the absence of eyes and spinners, since these organs were doubtless present but have simply failed to impress themselves upon the matrix. I have, therefore, felt compelled, on the one hand to propose a new generic place for this fossil, and on the other, to present no sharply defined generic characteristics. Indeed, it must be admitted that besides expressing the general facies of the fossil, as above described, the generic value of the name *Eoatypus* consists largely in assigning the specimen rank as a fossil spider.

On one side, portions of all the four legs are preserved, the first three showing the articulations at the trochanter, femur and patella. The second leg shows also the patella entire, indicating the articulation with the metatarsus. On the other side a portion of the femur of the first leg is shown with the patella and its articulations. Both hind legs are represented by the apical parts of the femora.

The horizon from which this new fossil was obtained is that from which most European fossil spiders have been taken, viz., the Eocene Tertiary. It is also that from which have come our American araneid fossils as recently studied by Mr. S. H. Scudder from specimens collected at Florissant, Colorado.